

## **INTRODUCTION**

**T**his section provides an executive level summary of the performance information covered in this report and is intended to bring to Management's attention that information considered to be most noteworthy. All cost, schedule, milestone commitments, performance measures, and safety data is current as of March 31. Accomplishments, Issues and Integration items are current as of April 19 unless otherwise noted.

The section begins with a description of notable accomplishments that have occurred since the last report and are considered to have made the greatest contribution toward safe, timely, and cost-effective clean up. Following the accomplishment section is an overall fiscal year-to-date summary analysis addressing cost, schedule, and milestone performance. Overviews of safety ensue. The next segment of the Executive Summary, entitled Critical Issues, is designed to identify the high-level challenges to achieving cleanup progress.

The next section includes Critical Few Performance Measures and FY 2000 EM Management Commitments. The EM Management Commitments include both High Visibility Project milestones and EM Corporate Performance Measures.

The Key Integration Activities section follows next, highlighting PHMC activities that cross contractor boundaries and demonstrate the shared value of partnering with other Site entities to accomplish the work. Concluding the Executive Summary, a forward-looking synopsis of Upcoming Planned Key Events is provided.

## **NOTABLE ACCOMPLISHMENTS**

- As of April 14, 2000, a total of 224 cans of Plutonium oxides and sludges have been stabilized through thermal stabilization (23 items since last report).
- The installation of three additional muffle furnaces for thermal stabilization of oxides was completed. A total of five furnaces are now operational.
- The first four Multi-Canister Overpacks (MCOs) were shipped from Joseph Oat, Inc. Fabrication of the MCO baskets continued at the Hanford Site.
- The SNF sludge acceleration strategy was approved by RL. This strategy will accelerate completion of sludge removal from the K Basins by one year, while reducing the SNF Project total life cycle cost by approximately \$16 million.
- The results of the follow up visit for certification of the Hanford Site for characterization, certification and shipment of TRU wastes to the WIPP was completed. All five Corrective Action Reports (CARs) were closed.
- Progress continues toward Accelerated Deactivation of the 327 Facility with the removal of 157 of ~300 sample cans from Dry Storage. Additionally, size reduction of Pin Tubes for packaging into shielded drums is complete.
- In a ceremony at the Volpentest HAMMER Training and Education Center, the U.S. Department of Labor, OSHA (Occupational Safety and Health Administration) and the U.S. Department of Energy formally celebrated their new partnership. The partnership will bring effective, rigorous, performance-based training programs (formerly offered only at the OSHA Training Institute in Des Plaines, Illinois) to the Tri-Cities region.

## PERFORMANCE DATA AND ANALYSIS

The following provides a brief synopsis of overall PHMC Environmental Management (EM) cost, schedule, and milestone performance.

### FY 2000 Cost and Schedule Performance

**Cost Performance** — Fiscal-year-to-date (FYTD) cost performance reflects a four percent (\$11.0 million) unfavorable cost variance that is within the established +10/-5 percent threshold.

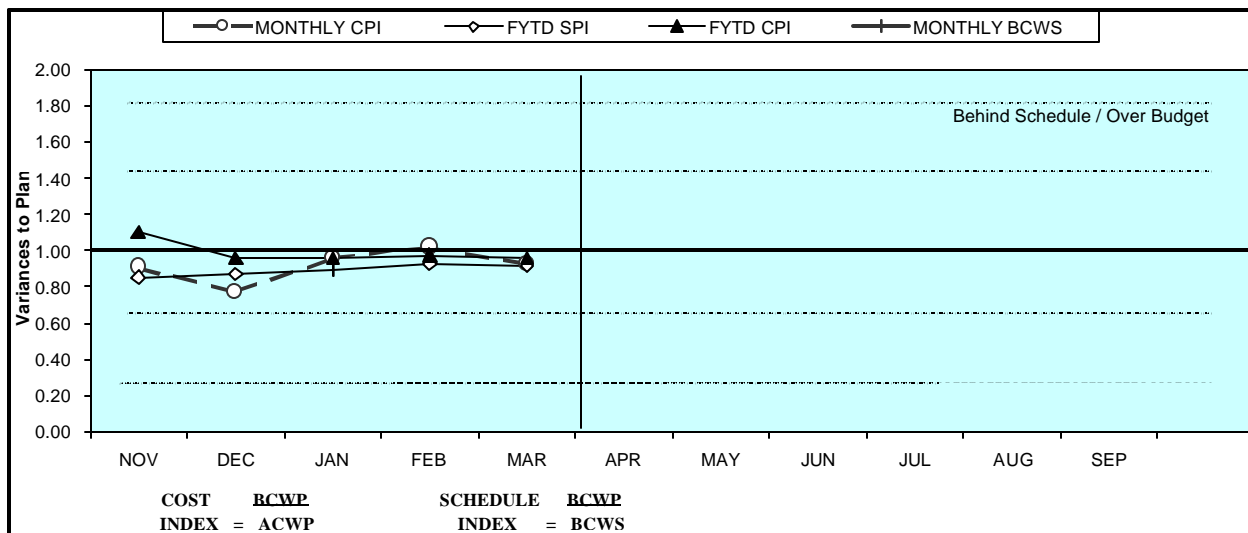
**Schedule Performance** — There is a FYTD eight percent (\$23.9 million) unfavorable schedule variance.

Data Through March 2000							
	PEM	Current Fiscal Year Performance (\$ x Million)					
		FYTD			Schedule Variance	Cost Variance	
		BCWS	BCWP	ACWP			
1.2 <b>Waste Management</b> TP02, WM03-05	110.1	51.4	48.6	48.6	(2.8)	0.0	
1.2.4 <b>Analytical Svcs (222-S,HASP,WSCF)</b> WM06	27.8	13.7	13.4	14.2	(0.3)	(0.8)	
1.3 <b>Spent Nuclear Fuel</b> WM01	195.1	91.4	89.4	104.9	(2.0)	(15.5)	
1.4.5 <b>Nuclear Materials Stabilization</b> TP05	127.2	65.7	54.0	54.5	(11.8)	(0.5)	
1.4 <b>River Corridor</b> TP01, TP04, TP08, TP10, TP12, TP14	59.9	27.0	26.3	26.0	(0.7)	0.3	
1.5 <b>Landlord</b> TP13	14.3	6.3	5.1	3.0	(1.2)	2.1	
1.8 <b>Mission Support</b> OT01, OT04	46.9	23.5	20.3	18.0	(3.2)	2.3	
1.9 <b>HAMMER</b> HM01	6.2	3.0	3.0	2.7	0.0	0.4	
1.12 <b>Advanced Reactors (EM)</b>	1.5	0.6	0.6	0.6	0.0	0.0	
<b>PHMC EM Clean-Up Projects</b>	<b>589.0</b>	<b>282.6</b>	<b>260.7</b>	<b>272.4</b>	<b>(21.9)</b>	<b>(11.7)</b>	
1.11 <b>National Programs</b> OT02, WM07	5.8	2.0	1.8	1.8	(0.2)	0.0	
<b>Technology Development</b> (EM-50)	22.1	10.2	8.4	7.8	(1.8)	0.6	
<b>Total Other Projects</b>	<b>27.9</b>	<b>12.2</b>	<b>10.2</b>	<b>9.6</b>	<b>(2.0)</b>	<b>0.6</b>	
<b>Total PHMC Projects</b>	<b>616.8</b>	<b>294.8</b>	<b>271.0</b>	<b>282.0</b>	<b>(23.9)</b>	<b>(11.0)</b>	

Notes: Column headings (BCWS, BCWP, etc.) are defined in the glossary at the end of the report. Calculations are based on Project Baseline Summary detail. Waste Management and Nuclear Materials Stabilization have included RL-Directed costs (e.g. steam and laundry) in the PEM BCWS. Advanced Reactors (EM) have included steam. Technology Development does not include ORP/RPP TTPs currently reported in the RL Dataset in the HQ-IPABS-PEM.

The following Cost/Schedule and Variance to Plan chart provides an overall graphical view of fiscal year to date performance and cost and schedule performance indicators.

**FY 2000 COST / SCHEDULE PERFORMANCE**  
**MARCH 2000 CUMULATIVE TO DATE STATUS**



FY 2000	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MONTHLY SPI	0.91	0.82	0.91	0.94	1.06	0.90						
MONTHLY CPI	1.63	0.91	0.77	0.96	1.02	0.92						
FYTD SPI	0.91	0.85	0.87	0.89	0.93	0.92						
FYTD CPI	1.63	1.10	0.96	0.96	0.97	0.96						
MONTHLY BCWS	\$ 32,593	\$ 53,767	\$ 43,044	\$ 45,672	\$ 48,699	\$ 71,043	\$ 48,523	\$ 59,465	\$ 45,872	\$ 47,144	\$ 59,103	\$ 61,879
MONTHLY BCWP	\$ 29,522	\$ 44,109	\$ 39,143	\$ 42,979	\$ 51,468	\$ 63,739						
MONTHLY ACWP	\$ 18,079	\$ 48,593	\$ 50,990	\$ 44,809	\$ 50,494	\$ 69,041						
FYTD BCWS	\$ 32,593	\$ 86,360	\$ 129,403	\$ 175,075	\$ 223,774	\$ 294,817	\$ 343,340	\$ 402,805	\$ 448,677	\$ 495,821	\$ 554,924	\$ 616,803
FYTD BCWP	\$ 29,522	\$ 73,631	\$ 112,774	\$ 155,753	\$ 207,221	\$ 270,960						
FYTD ACWP	\$ 18,079	\$ 66,672	\$ 117,662	\$ 162,471	\$ 212,965	\$ 282,006						

## MILESTONE PERFORMANCE

Milestones represent significant events in project execution. They are established to provide a higher level of visibility to critical deliverables and to provide specific status about the accomplishment of these key events. Because of the relative importance of milestones, the ability to track and assess milestone performance provides an effective tool for managing the PHMC EM cleanup mission.

FYTD milestone performance (Enforceable Agreement [EA], U.S. Department of Energy-Headquarters [DOE-HQ], and RL) shows that 26 of 36 (72 percent) approved baseline milestones were completed on or ahead of schedule, 2 milestones (6 percent) were completed late, and 8 milestones (22 percent) are overdue. The eight overdue milestones are associated with six projects: Nuclear Material Stabilization—two, River Corridor—one, Spent Nuclear Fuel—one, Environmental Management (EM)-50—two, Landlord—one, and Mission Support—one. These overdue milestones do not share a common cause.

In addition to the FY2000 milestones described above, there are three overdue milestones from the prior fiscal year (FY1999). Further details regarding these milestones may be found in the Project Sections.

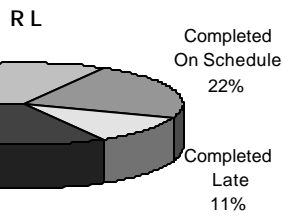
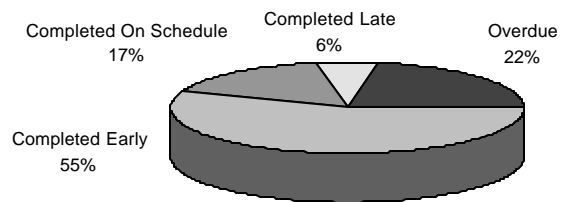
FY 2000 information is depicted graphically below and on the following page. For additional details related to the data in the graphs and prior year milestones, refer to the relevant project section titled “Milestone Exception Report.”

**PHMC Environmental Management Performance Report – May 2000**  
**Section A –Executive Summary**

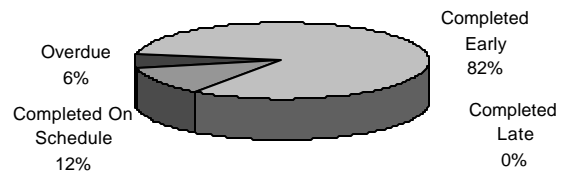
FY 2000 information reflects the current approved baseline. Changes in both the number and type of milestones from month to month are the result of Baseline Change Requests (BCRs) approved during the year.

MILESTONE TYPE	FISCAL YEAR-TO-DATE				REMAINING SCHEDULED			TOTAL FY 2000
	Completed Early	Completed On Schedule	Completed Late	Overdue	Forecast Early	Forecast On Schedule	Forecast Late	
Enforceable Agreement	14	2	0	1	0	16	0	33
DOE-HQ	0	0	0	1	0	3	0	4
RL	6	4	2	6	0	57	0	75
Total Project	20	6	2	8	0	76	0	112

**Total Project**



**Enforceable Agreement**

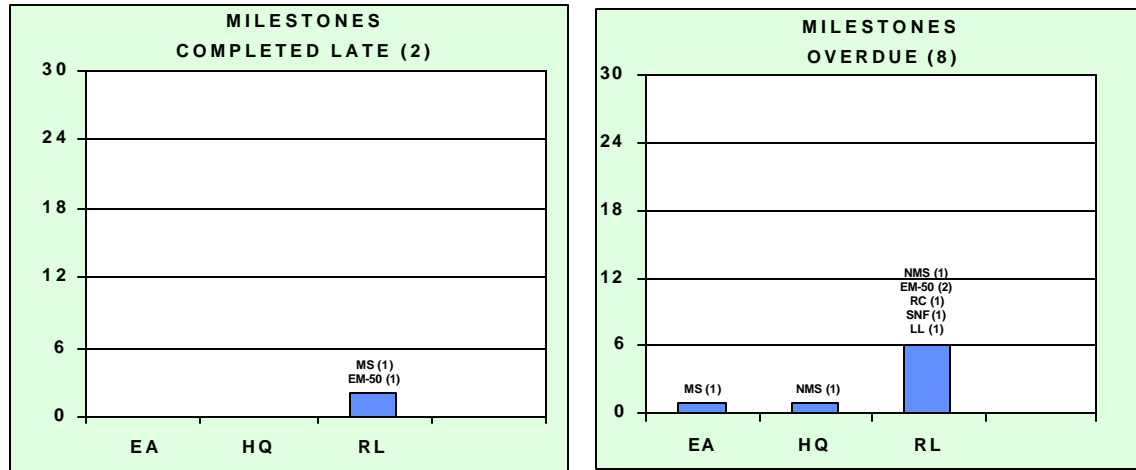


**DOE-HQ**

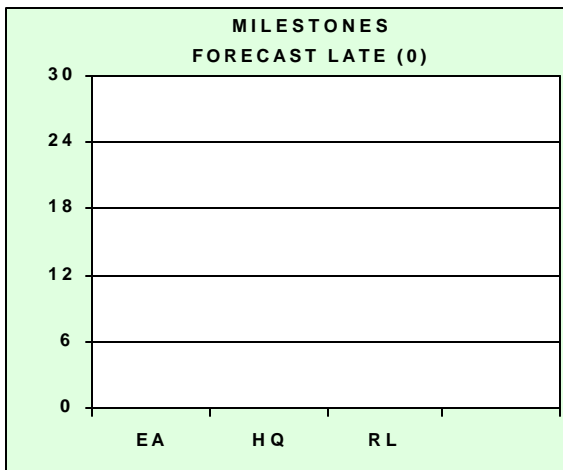


## MILESTONE EXCEPTIONS

### FISCAL YEAR TO DATE



### REMAINING SCHEDULED



These charts provide detail by project and milestone level / type for milestones

- Completed Late
- Overdue
- Forecast Late
- Detailed information can be found in the individual project sections

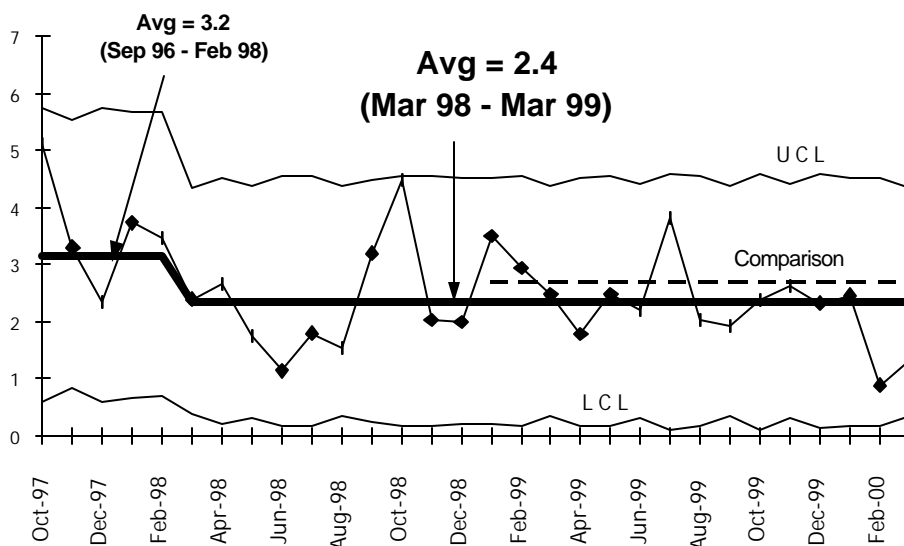
## **SAFETY OVERVIEW**

The focus of this section is to document trends in occurrences. Improvements in these rates are due to the efforts of the PHMC workforce as they implement the Integrated ES&H Management System (ISMS), work towards achieving Voluntary Protection Program (VPP) “star” status, and accomplish work through Enhanced Work Planning (EWP). Safety and health statistical data is presented in this section.

### **SIGNIFICANT SAFETY AND HEALTH EVENTS**

Rates have been stable for over two years. This safety performance plateau has been recognized by the safety organizations, and Fluor Hanford kicked off its Integrated Safety Approach initiative on December 6, 1999 in order to take safety performance to a new level. This initiative focuses on the "people side" of accident prevention.

### **Total OSHA Recordable Case Rate**



#### **P H M C**

FY 1999 = 2.6

FY 2000 = 2.0

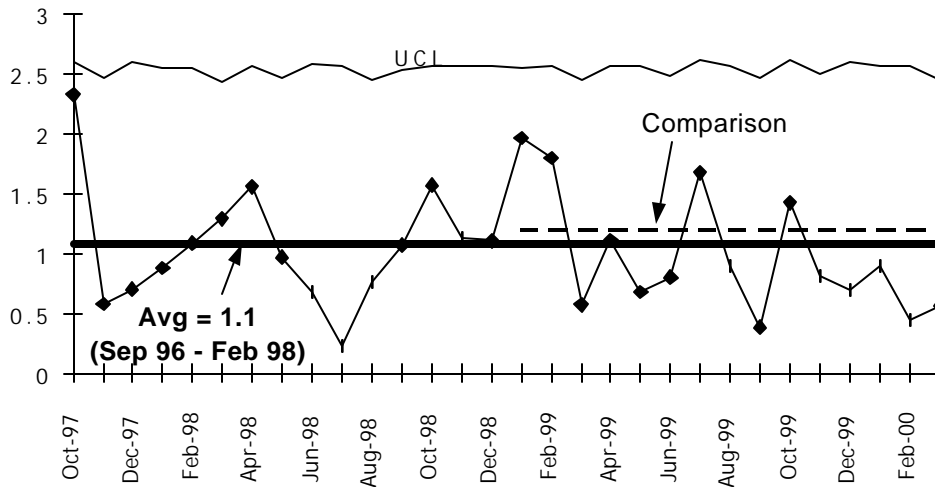
Contractor Comparison

Average = 32.7 (CY99)

This indicator had a nearly significant decrease in February and March.

Consolidation of the projects under Fluor Hanford, and actions taken at the end of FY 1999 to look at injury sources appears to be having an effect.

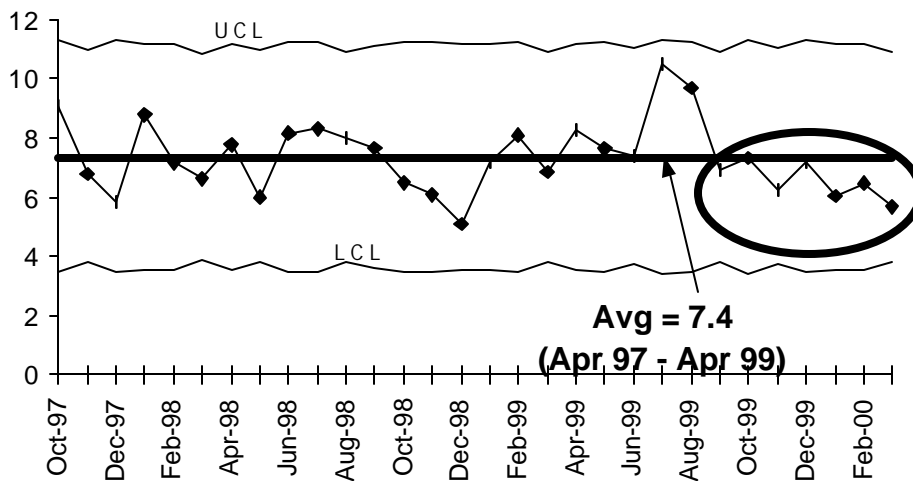
## OSHA LOST/RESTRICTED WORKDAY CASE RATE



### PHMC

FY 1999 = 1.1  
 FY 2000 to date = 0.8  
 Contractor Comparison  
 Average = 1.2 (CY99)  
 The data have been stable for the past two years. Most of the recent months (over the past year) have been well below average, an indicator of potential improvement.

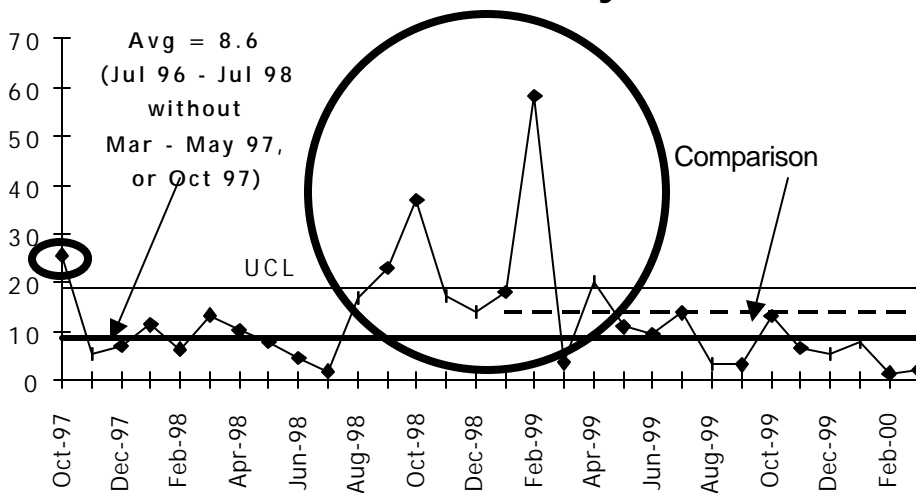
## First Aid Case Rate



### PHMC

First Aid Rate undergoes seasonal cycles. Increases occur in warmer weather due to insect and animal encounters, and due to wind related minor injuries. First Aid case rate has remained relatively stable, a good indicator that injuries are not being under-reported. There are currently 7 months in a row below average.

## DOE Safety Cost Index



PHMC  
FY 1999 = 17  
FY 2000 to date = 5.9  
Contractor Comparison  
Average = 13.9 (CY99)  
There has been a long  
term cycle over the past  
three years of decreases  
for 7 to 9 months, followed  
by increases. Additional  
days gained on cases in  
FY 1999 have negated the  
previously noted  
significant decrease.

## CRITICAL TECHNICAL ISSUES

- 324 FACILITY BEHIND SCHEDULE**

The 324 Building Fire Hazards Analysis (FHA) revision supporting the 324 Building Safety Analysis Report (SAR) update resulted in revised combustible load limits. An implementation plan has been submitted for approval that allows either 1) work to continue while maintaining revised combustible load limits or 2) implements compensatory measures, such as establishing a fire watch, eliminating ignition sources, and shutting off lights when not needed. This change will not cause a schedule impact, but it may create a cost impact to work in progress.

- CRACK DISCOVERED ON B PLANT W-059 DUCT REPLACEMENT**

Good progress was made toward closeout of the actions required by the B Plant transfer Memorandum of Agreement (MOA). Vibration testing of the ducting was completed. Subject matter experts verified that the crack was caused by vibration from harmonics that occurred when the system was operated at a low-flow condition. The system will be run at full-flow to avoid the problem once the field repair/plate welding is complete. The Department of Health has extended the due date to June 30, 2000 for restart of the exhaust system.

## EM CORPORATE PERFORMANCE MEASURES

Performance Measures	EM Management Commitment	FY 2000 Current Baseline	FYTD Planned	FYTD Actual
<b>Facilities Deactivated/Decommissioned</b>				
Facilities deactivated	21	21	12	20
Facilities decommissioned	14	13	5	5
<b>TRansUranic (TRU) Waste</b>				
Stored - total inventory (m <sup>3</sup> )	16,333	16,316	16,333	16,324
Disposed (shipped to DOE site m <sup>3</sup> )	55	55	0	0
<b>High Level Waste</b>				
Treated (m <sup>3</sup> )	3,600	3,600	0	0
<b>Mixed Low Level Waste</b>				
Stored - total inventory (m <sup>3</sup> )	7,852	7,852	8,862	9,112
Treated (m <sup>3</sup> )	1,060	1,060	560	98
Disposed	835	835	479	248
<b>Low Level Waste</b>				
Stored - total inventory (m <sup>3</sup> )	180	180	180	180
Disposed (on-site/commercial) (m <sup>3</sup> )	6,936	6,936	3,328	3,018
<b>Material Stabilized</b>				
Plutonium Oxide (containers)	400	140	47	164
Plutonium Solution (L)	255	255	0	13
Plutonium Residue (kg)	29	29	0	0
<b>Technology Deployments</b>	9	7	2	2
<b>Pollution Prevention</b>				
HAZ (MT)	470	470	104	104
SAN (MT)	138	138	60	60
LLW (m3)	45	45	11	11
MLLW (m3)	1,781	1,781	322	322
<b>Cleanup/Stabilized Waste Avoided</b>				
FY 2000 planned baseline amount (m <sup>3</sup> )	19,160	19,160	2,997	2,997
FY 2001 planned baseline amount (m <sup>3</sup> )	19,257	19,257	N/A	N/A

All of the above reflect the status as of March 31. For deviations +/- 10%, see the following projects sections: Facilities Deactivated (Landlord); MLLW Treated, MLLW Disposed (Waste Management Project); Materials Stabilized, Plutonium Oxide and Solution (Nuclear Materials Stabilization Project). Technology Deployment Management Commitments are shared with ERC.

## MANAGEMENT COMMITMENT MILESTONES AS OF MARCH 31, 2000

Milestones	Due Date	Forecast Date	Actual Date	Status / Comments
<b>Nuclear Materials Stabilization</b>				
Deliver Two Validated Data Pkgs. (M-015-37B)	5/31/00	5/31/00		
Begin Stab. of Pu Solutions via Mg(OH) <sub>2</sub>	7/31/00	7/31/00		
<b>Spent Nuclear Fuels</b>				
Complete KW Cask Facility Mods (M-034-14A)	2/29/00	2/29/00	2/29/00	Complete
Commence Phased Startup Initiative Hot Testing	5/31/00	5/31/00		
Complete Phased Startup Initiative Testing	8/31/00	8/31/00		
<b>Waste Management</b>				
Initiate TRU Shipment to WIPP	5/31/00	5/31/00		

## CRITICAL FEW PERFORMANCE MEASURES

Performance Measure	Status as of March 31, 2000
<b>Spent Nuclear Fuel:</b>	
<b>Measure</b> - Amount of fuel removed	
Declaration of Readiness to move Spent Nuclear Fuel	Green
Phased Startup Initiative Phases I & II	Red
K-East Fuel Retrieval System facility modifications to allow FRS installation	NA (contract mod issued to delete) NA FY 2000
<b>Measure</b> - Amount of SNF Stabilized	
<b>324/327 Building Deactivation:</b>	
<b>Measure</b> - Number of buildings dispositioned	Green
<b>Waste Management:</b>	
<b>Measure</b> - Adequacy of waste management services support	
Number of analytical equivalent units (AEU's) analyzed	Green
Through-put efficiency of effluent treatment facility (ETF) gpm	Green
Number of 242-A evaporator campaigns completed	Green
<b>Measure</b> - Retrieve and ship TRU offsite	
Number of drums retrieved	Green
Number of shipments to WIPP	Green
<b>Measure</b> - MLLW Treated (m3)	Green
<b>Measure</b> - MLLW Disposed (m3)	Green
<b>Plutonium Stabilization:</b>	
<b>Measure</b> - Pu metal/oxides/other types dispositioned (items)	Yellow

Yellows noted above are behind schedule but recoverable, action plans in place. Red is either missed or unrecoverable. Details can be found in the Project Sections.

## **KEY INTEGRATION ACTIVITIES**

The following are the key technical integration activities that are currently underway and cross project/contractor lines. These activities are being addressed by inter-discipline and inter-project groups and demonstrate that Hanford Site contractors are working together to accomplish the EM Clean up mission.

- Spent nuclear fuel (SNF) final disposition interface activities, including OCRWM QA Program implementation, ongoing with National SNF Program.
- SNF Project fuel removal acceptance criteria and conceptual design reviews for 324 Building (B Cell) ongoing with River Corridor Project.
- K Basins sludge removal and Shippingport (PA) Pressurized Water Reactor Core 2 SNF removal implementation activities ongoing with Waste Management.
- WM working with DOE-RL, DOE-HQ and other Sites to develop and define Hanford's role in disposing of waste from other sites. Hanford's role as one of the identified LLW/MLLW disposal sites for the Complex is yet to be fully defined.
- WM supporting the RL declaration of Readiness-to-Proceed in support of the Office of River Protection (ORP) Privatization contract.
- WM working with PNNL, EM-50 and Mixed Waste Focus Area (MWFA) to obtain funding in support of mixed waste processing.
- Nuclear Material Stabilization Project continues working with PNNL on activities associated with the  $\text{Mg}(\text{OH})_2$  process in order to accelerate the plutonium solution stabilization process, and polycube stabilization issues (gathering data for the SAR).
- Analytical Services continues to support BNFL efforts to establish required analytical support for glassification operations.
  - In the longer term, BNFL could utilize unused space at WSCF for cold run test support and process laboratory analytical equipment testing.
  - The 222-S laboratory, with some refurbishment might become a low cost option to a new large-scale laboratory associated with the glassification facility.
- Landlord is establishing a Hanford Site Planning Advisory Board made up of cooperating agencies and Tribal representatives.

## **UPCOMING PLANNED KEY EVENTS**

The following Key events are extracted from the authorized baseline and are currently expected to be accomplished during the next eight months. Most are Enforceable Agreement (EA), HQ or DNFSB Milestones.

### **Waste Management:**

- Complete the 242-A Evaporator Campaign in May 2000 in support of the River Protection Project.
- Treat 1,160 cubic meters (includes 100 cubic meters stretch) of MLLW at ATG by August 2000; dispose of Land Disposal Restriction compliant waste by September 2000.
- Retrieve 425 drums of suspect TRU waste from the Low-Level Burial Grounds by September 2000.
- Accelerate Readiness to Receive Spent Nuclear Fuel K Basin Sludge.
  - Clear three sections of the T Plant Canyon deck in FY 2000.
  - Complete entire deck clearing by FY 2001.

### **Spent Nuclear Fuels:**

- Complete integrated subsystem testing of the Cold Vacuum Drying facility by the end of May.
- Deliver first shipment of Multi-Canister Overpack (MCO) baskets by June 1, 2000.
- Complete Cask Loadout System (CLS) startup testing by mid-June 2000.
- Begin DOE Operational Readiness Review (ORR) for fuel removal by mid-September 2000.
- Begin K West Basin fuel removal, drying & storage operations by November 30, 2000.

### **River Corridor Project:**

- Complete all B Plant closeout activities by June 2000.
- Complete ISMS verification of Phase I & II readiness activities by June 2000.
- Issue the final report for the 300 Area Waste Acid Treatment System (WATS) Resource Conservation and Recovery Act (RCRA) Closure Activities by September 2000.
- Complete Removal of 324 Building Radiochemical Engineering Cell (REC) B Cell Mixed Waste (MW) and Equipment by November 2000.

### **Nuclear Materials Stabilization:**

- Begin Pu solution stabilization via  $Mg(OH)_2$  in the 4th quarter of FY 2000.
  - Deliver glove boxes and equipment for installation in April 2000.
  - Complete ORR and training activities.
- Startup Cementation operations in the 4th quarter of FY 2000.
- Begin metal stabilization processing in November 2000.

### **Landlord**

- Complete Definitive Design for Project L-309, "Replace Portion of Main Water Lines," which replaces approximately 1,500 feet of the sanitary water lines in 200 East Area by April 28, 2000.
- Complete Definitive Design for Project L-310, "Distribution Water Line" which replaces a 2.5-mile section of the 24" export water line in the 200 West Area by May 26, 2000.